



# Nassau County Multi-Jurisdictional Hazard Mitigation Planning Effort

## Meeting #1 of the Core Planning Group November 14, 2005

*10 am to 12 pm*

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# Today's Agenda

- Welcome and Opening Remarks
- Overview of the Project and Planning Team Structure
- Participation Criteria
- The Hazard ID and Profile Steps
- Core Planning Group Working Session
- Next Steps
- Questions and Answers



# What is hazard mitigation?

Hazard mitigation measures are actions you can undertake today to reduce your susceptibility to damages in the future.

## *Examples:*

*Residential structure elevation/acquisition*

*Raising/widening a bridge*

*Retrofits (i.e., hurricane clips; raising utilities)*

*Setback distances*

*Modifying building codes*



# What is hazard mitigation planning?

## Hazard Mitigation Planning is:

The process of identifying community policies, actions, and tools for implementation in the long-term that result in a reduction of risk and potential for future losses *BEFORE* a disaster strikes.

*Don't confuse with emergency response planning!*



## Some Key Points:

- Disaster Mitigation Act of 2000 (DMA2000):
  - The Act that set forth the planning requirements
  - Natural Hazards → Required
  - Human Caused Hazards → Not Required

*Nassau County Plan = Natural Hazards Only*



# Why Prepare a Hazard Mitigation Plan?

- Eligibility to apply for Federal aid for technical assistance and certain types of pre- and post-disaster project funding :
  - HMGP (Hazard Mitigation Grant Program)
  - PDM (Pre-Disaster Mitigation Program)
  - FMA (Flood Mitigation Assistance Program)

 FEMA PDM grant money has been received to do so





# Why Prepare a Hazard Mitigation Plan?

- Damages can be prevented by taking the time to plan:
  - ◆ learn about hazards
  - ◆ anticipate where and how they occur
  - ◆ identify projects for reducing damages based on risk
- Planning reduces losses and facilitates recovery.



Elevated homes in Sweet Lake, LA (near Lake Charles) after Hurricane Rita (09/24/05).





# What are the options for municipalities?

- Communities can prepare:
  - ◆ their own, 'single-jurisdiction' plan
  - ◆ or, join together with other municipalities to pool resources and prepare a 'multi-jurisdictional' plan



# What is a Multi-Jurisdictional Plan?

- Communities coming together to participate in a joint mitigation plan development process.
  
- Common:
  - ◆ Planning Process
  - ◆ Hazards
  - ◆ Goals
  - ◆ Plan Maintenance Procedures
- Unique:
  - ◆ Risks
  - ◆ Mitigation Actions
  - ◆ Participation
  - ◆ Plan Adoption



# What is a Multi-Jurisdictional Plan?

## Multi-Jurisdictional Approach

- Basic processes for single jurisdiction and multi-jurisdictional plans are identical.
- Difference lies in degree of complexity.





# What is a Multi-Jurisdictional Plan?

- A multi-jurisdictional plan can include:
  - ◆ Any group of communities exposed to similar hazards
    - ◆ Communities in the same county
    - ◆ Communities in the same watershed
    - ◆ As little as two neighboring communities
    - ◆ Etc...



# About the Nassau County Multi-Jurisdictional Hazard Mitigation Plan

- The hazard mitigation planning process will be undertaken by the "Planning Group"
  - ◆ Participating Jurisdictions
  - ◆ Other Stakeholders
  - ◆ The Public
- Consultants will provide technical support





# Why Participate in a Multi-Jurisdictional Plan Development Process?

## Participating Jurisdictions:

- Practical way to addressing issues best dealt with on a larger scale, which do not recognize political boundaries.
- Creates economies of scale.
- Enables pooling of limited resources.





# Why Participate in a Multi-Jurisdictional Plan Development Process?

## Participating Jurisdictions – Bottom Line:

- Because of the FEMA PDM planning grant received by Nassau County, participating jurisdictions need only commit people to the process...*not \$\$\$.*



# Why Participate in a Multi-Jurisdictional Plan Development Process?

## The Public and Other Stakeholders:

- Can learn about hazards through participation in the process
- Can learn about things they can do to reduce risks
- Can provide valuable input
  - ◆ Describing stakeholder capabilities/responsibilities
  - ◆ Identifying hazards
  - ◆ Quantifying affects of hazards
  - ◆ Contributing to the overall vision and direction of the plan



# About the Nassau County Multi-Jurisdictional Hazard Mitigation Plan

- All municipalities have the option of taking part
  - ◆ As "Participating Jurisdictions"
  - *OR* -
  - ◆ As "Other Stakeholders"



# About the Nassau County Multi-Jurisdictional Hazard Mitigation Plan

- ◆ Municipalities as “Participating Jurisdictions”
  - ◆ Will meet participation criteria and satisfy requirements of DMA 2000
  - ◆ Will adopt and implement the plan
  - ◆ Plan will ‘count’ for them in FEMA’s eyes
  - ◆ Eligible to apply for PDM, HMGP, FMA projects



# About the Nassau County Multi-Jurisdictional Hazard Mitigation Plan

- ◆ Municipalities as “Other Stakeholders”
  - ◆ Will provide feedback and input during the plan development process
  - ◆ Will not adopt the final plan
  - ◆ Often chosen for communities who have already decided to prepare a single-jurisdiction plan



# About the Nassau County Multi-Jurisdictional Hazard Mitigation Plan

- What about non-municipal "Other Stakeholders"?
  - ◆ Will provide feedback and input during the plan development process
  - ◆ Will not adopt the final plan
  - ◆ Can include....(next slide)





# About the Nassau County Multi-Jurisdictional Hazard Mitigation Plan

## ■ Non-municipal “Other Stakeholders”

- ◆ Neighborhood groups
- ◆ Non-profit organizations (i.e. scout troops, Red Cross, Salvation Army)
- ◆ Housing organizations
- ◆ Environmental groups
- ◆ Historic preservation groups
- ◆ Parent-teacher organizations
- ◆ Church organizations
- ◆ Parks organizations
- ◆ State, federal, and local government offices
- ◆ Neighboring communities/counties
- ◆ Business and development organizations
- ◆ Academic institutions
- ◆ Utility providers
- ◆ Hospitals
- ◆ Tribal groups
- ◆ Transportation entities
- ◆ Regional planning organizations
- ◆ Emergency service providers
- ◆ Jurisdiction web site managers / IT staff
- ◆ Any local office and/or group with a public outreach focus



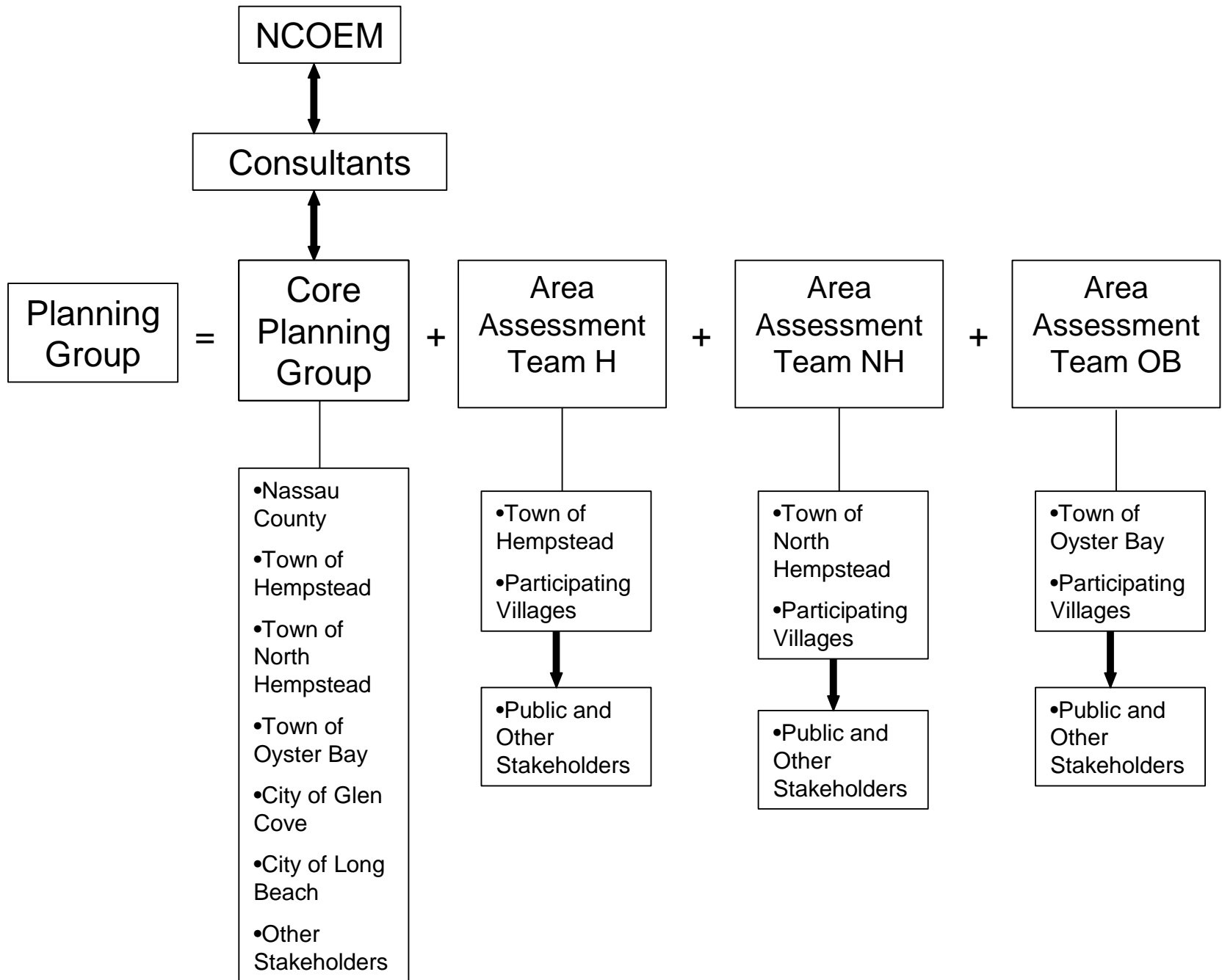
# The Overall Planning Group

- Nassau County
- 3 Towns
- 2 Cities
- Up to 64 Villages
- Many Other Stakeholders



# Organizational Structure of the Planning Group

- Goal: Keep meetings to a workable number
- Challenge: Many potential players
- Solution: Identify smaller sub-groups
- Approach: Divide based on geographic area





# The Core Planning Group

Core	Nassau County
Planning =	3 Towns
Group	2 Cities
	Other Stakeholders



# The Core Planning Group

Core  
Planning =  
Group

Nassau County (*OEM, DPW, Planning Commission*)

3 Towns (*Hempstead, North Hempstead, Oyster Bay*)

2 Cities (*Glen Cove, Long Beach*)

Other Stakeholders (*Downtown Glen Cove BID, Keyspan*)





# Role of Core Planning Group Members

■ Nassau County	Participating Jurisdiction
■ T. of Hempstead	Participating Jurisdiction
■ T. of N. Hempstead	Participating Jurisdiction
■ T. of Oyster Bay	Other Stakeholder
■ C. of Glen Cove	Participating Jurisdiction
■ C. of Long Beach	Participating Jurisdiction
■ D. Glen Cove BID	Other Stakeholder
■ Keyspan	Other Stakeholder



# Role of Core Planning Group Members

Q: Why is Oyster Bay listed as an "Other Stakeholder"?

A: Oyster Bay has prepared a single-jurisdiction plan

- ◆ approved by FEMA Region 2
- ◆ formally adopted by the Town



# Role of Core Planning Group Members

## ■ The Core Planning Group...

- ◆ Coordinates input
- ◆ Leads the effort for common elements of the plan
- ◆ Makes key decisions
- ◆ Manages communication
- ◆ Keeps to a schedule
- ◆ Day to day plan formulation activities
- ◆ Coordinates with Area Assessment Teams and other stakeholders



# The Role of Participating Jurisdictions

- Regardless of Core Planning Group or Area Assessment Team, each participating jurisdiction must:

- ◆ Satisfy participation criteria
- ◆ Provide information and feedback
- ◆ Reach out to the public and other stakeholders
- ◆ Assess mitigation alternatives
- ◆ Select a course of action to be followed for their community
- ◆ Implement the plan and monitor its progress





# The Role of the Public and Other Stakeholders

## ■ The Public and Other Stakeholders:

- ◆ Advisory role
- ◆ Provide feedback
  - ◆ Historic affects
  - ◆ Proposed mitigation actions
  - ◆ Etc...
- ◆ Get the word out



# The Role of Consultants

- Consultants can't "work in a bubble" to author a hazard mitigation plan that will comply with DMA 2000.







# Consultants Provide The Tools

- ◆ Hazard profiles
- ◆ Asset I.D. and characterization
- ◆ Potential types of mitigation actions
- ◆ Synthesizes input from Core Planning Group and participating jurisdictions
- ◆ Authors the plan
- ◆ Provides sample adoption resolution
- ◆ Defines plan maintenance process and schedule



## The Planning Group Uses These Tools To:

- ◆ Identify hazard effects
- ◆ Highlight key assets at risk
- ◆ Estimate dollar losses
- ◆ Analyze mitigation actions
- ◆ Prioritize selected actions
- ◆ Define an implementation strategy



# Overview of the Plan Development Process: *The Basis*

- FEMA's Local Plan Review Worksheet
- Sometimes called "the Crosswalk"
- What FEMA uses to 'grade' mitigation plans.
- [www.fema.gov/doc/fima/local\\_plan\\_review\\_worksheet.doc](http://www.fema.gov/doc/fima/local_plan_review_worksheet.doc)

Elements of each requirement are listed on the following pages of the Plan Review Crosswalk.

A "Needs Improvement" score on elements shaded in gray (recommended but not required) will

not preclude the plan from passing. Reviewer's comments must be provided for requirements

receiving a "Needs Improvement" score.

### SCORING SYSTEM

Please check one of the following for each requirement.

**N – Needs Improvement:** The plan does not meet the minimum for the requirement.

Reviewer's comments must be provided.

**S – Satisfactory:** The plan meets the minimum for the requirement. Reviewer's comments are encouraged, but not required.

Prerequisite(s) (Check Applicable Box)	NOT MET	MET
Adoption by the Local Governing Body: §201.6(c)(5) <b>OR</b>		
Multi-Jurisdictional Plan Adoption: §201.6(c)(5) <b>AND</b>		
Multi-Jurisdictional Planning Participation: §201.6(a)(3)		

Planning Process	N	S
Documentation of the Planning Process: §201.6(b) and §201.6(c)(1)		

Risk Assessment	N	S
Identifying Hazards: §201.6(c)(2)(i)		
Profiling Hazards: §201.6(c)(2)(i)		
Assessing Vulnerability: Overview: §201.6(c)(2)(ii)		
Assessing Vulnerability: Identifying Structures: §201.6(c)(2)(ii)(A)		
Assessing Vulnerability: Estimating Potential Losses: §201.6(c)(2)(ii)(B)		
Assessing Vulnerability: Analyzing Development Trends: §201.6(c)(2)(ii)(C)		
Multi-Jurisdictional Risk Assessment: §201.6(c)(2)(iii)		

Mitigation Strategy	N	S
Local Hazard Mitigation Goals: §201.6(c)(3)(i)		
Identification and Analysis of Mitigation Actions: §201.6(c)(3)(ii)		
Implementation of Mitigation Actions: §201.6(c)(3)(iii)		
Multi-Jurisdictional Mitigation Actions: §201.6(c)(3)(iv)		

Plan Maintenance Process	N	S
Monitoring, Evaluating, and Updating the Plan: §201.6(c)(4)(i)		
Incorporation into Existing Planning Mechanisms: §201.6(c)(4)(ii)		
Continued Public Involvement: §201.6(c)(4)(iii)		

Additional State Requirements*	N	S
Insert State Requirement		
Insert State Requirement		
Insert State Requirement		



LOCAL MITIGATION PLAN APPROVAL STATUS	
PLAN NOT APPROVED	
PLAN APPROVED	



# Overview of the Plan Development Process: *Key Steps*

- Research a full range of natural hazard events
- Identify subset of significant hazards; these will be focus of the plan
- Identify location and extent of hazard areas
- Identify assets located within hazard areas



# Overview of the Plan Development Process: *Key Steps*

- Characterize existing and potential future assets at risk
- Assess vulnerabilities to the identified hazards
- Evaluate and prioritize:
  - ◆ Goals
  - ◆ Objectives
  - ◆ Mitigation actions





# Participation Criteria

*What does it mean to participate?*

- ◆ Most importantly: provide input
- ◆ Draft Participation Criteria (see handout)
  - ◆ Applies to 'participating jurisdictions'
  - ◆ Does not apply to 'other stakeholders'



# Hazard Identification and Profile Steps

## Hazard Identification:

- Evaluate a full range of natural hazards
- Which hazards are significant? Why?
- Which are not significant? Why not?





# Hazard Identification and Profile Steps

## Hazards Evaluated

- Avalanches
- Coastal Erosion
- Wave Action
- Earthquakes
- Expansive Soils
- Floods
- Geomagnetism
- Ice Jams
- Landslides
- Land Subsidence
- Drought
- Extreme Temps
- Hail
- Hurricanes
- Tornadoes
- Winter Storms/Ice Storms
- Tsunamis
- Volcanoes
- Wildfires



# Hazard Identification and Profile Steps

## Significant Hazards (Focus of Plan)

- Coastal Erosion
- Wave Action
- Earthquakes
- Floods
- Landslides
- Drought
- Hurricanes
- Tornadoes
- Winter Storms/Ice Storms
- Extreme Winds



# Hazard Identification and Profile Steps

## Hazard Profile:

- Profile significant hazards
  - Location and extent
  - Historical events
  - Hazard characteristics
  - Probability of future events
  - Severity of future events



# Hazard Identification and Profile Steps

## Hazard Profile:

- Hazard Profile near completion
- Interim Deliverable
  - November/December 2005
  - Awaiting some info from NYSDEC (CEHA)





## Hazard Profile – Did You Know....

- Nassau County has nearly 188 miles of coastline
- Total Population = 1.3 million
  - Hempstead = 755,924
  - North Hempstead = 222,611
  - Oyster Bay = 293,925
  - Glen Cove = 26,622
  - Long Beach = 35,426



# Hazard Profile – Did You Know....

## ■ The County





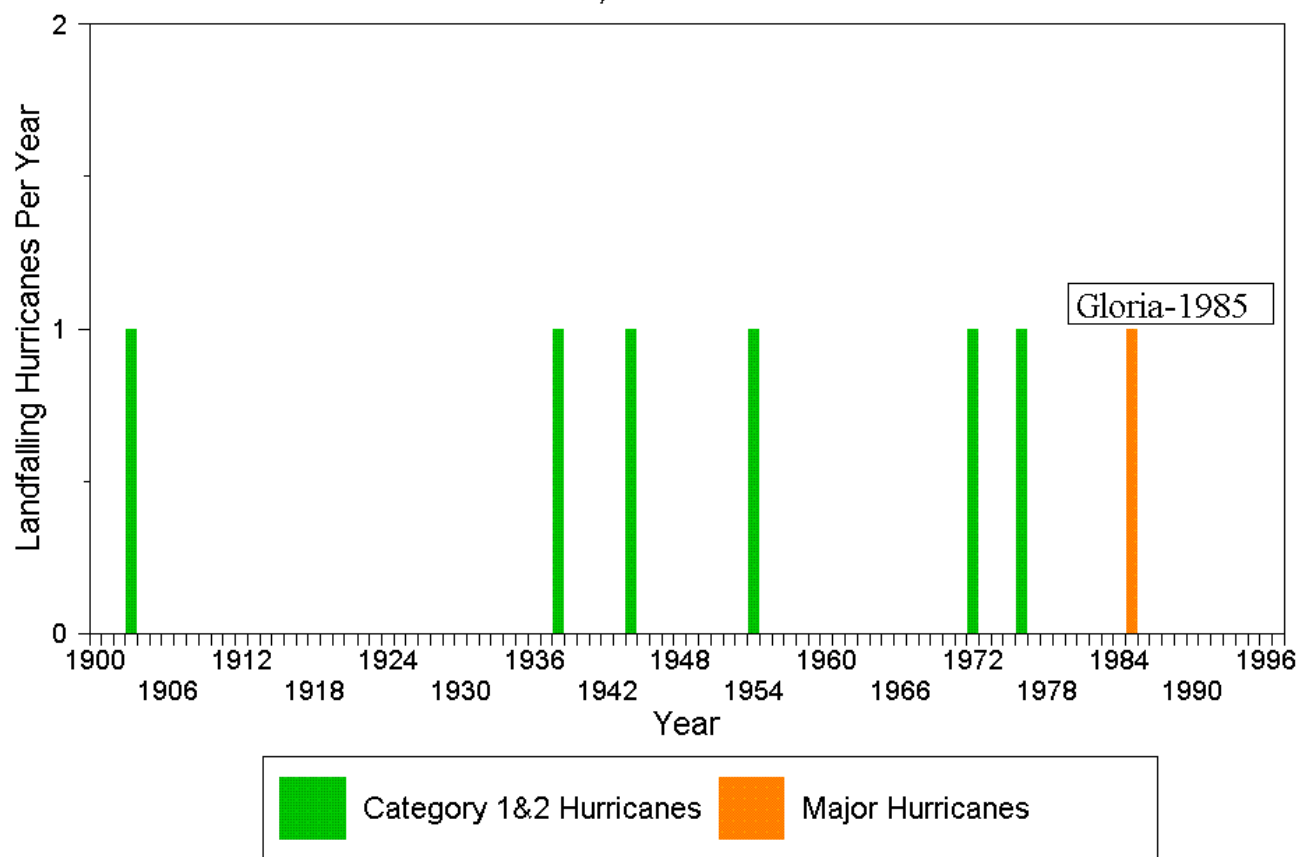
## Hazard Profile – Did You Know....

- Nassau County has an 18% to 24% chance per year of a named storm
  - 19 tropical per 100 years
  - 7 hurricanes per 100 years
  - Probability of at least 1 tropical/10 yrs = 0.85
  - Probability of at least 1 hurricane/10yrs = 0.50



# Hazard Profile – Did You Know....

## Nassau County, New York Hurricanes; 1900-1996





## Hazard Profile – Did You Know....

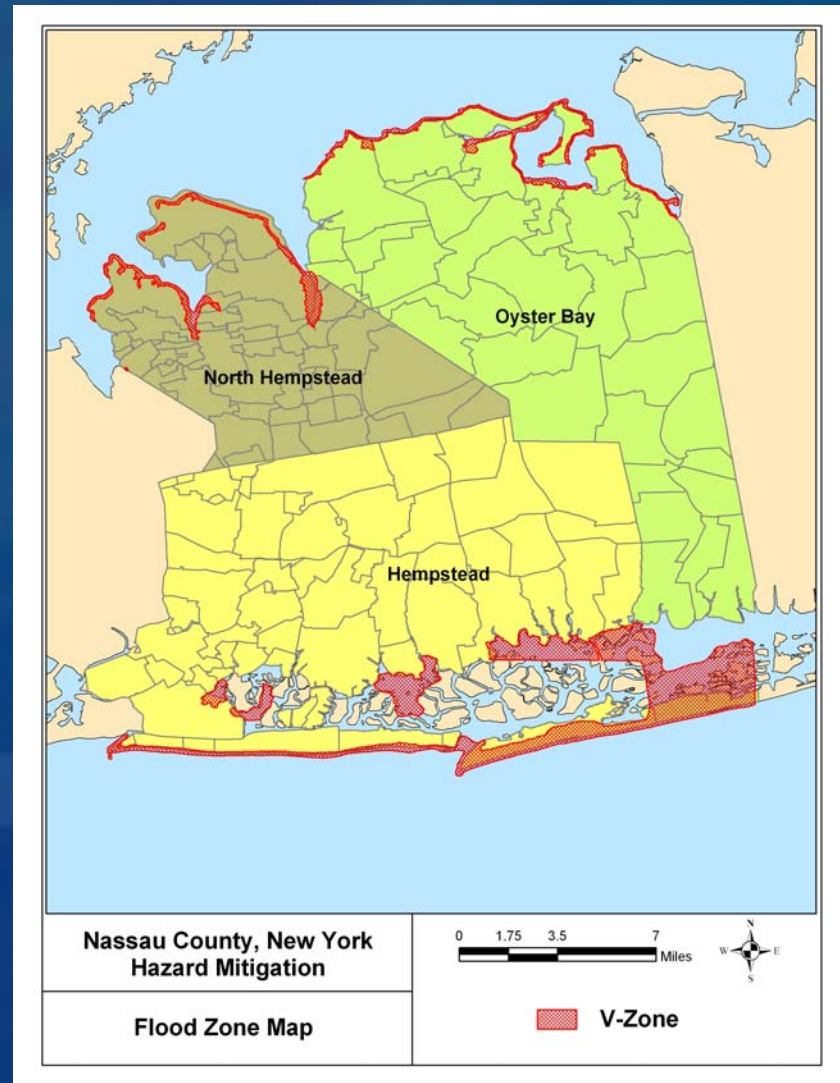
- For tropical and extratropical storms causing either some degree of shoreline damage or at least threatening Long Island:
  - 204 storms between 1800 and 1962
    - Storms with moderate damage 1 each 2 yrs
    - Unusually severe storms 3 times each 100 yrs





# Hazard Profile – Did You Know....

- FEMA Velocity Zones (V-zones)
- Wave action
- Red shaded areas

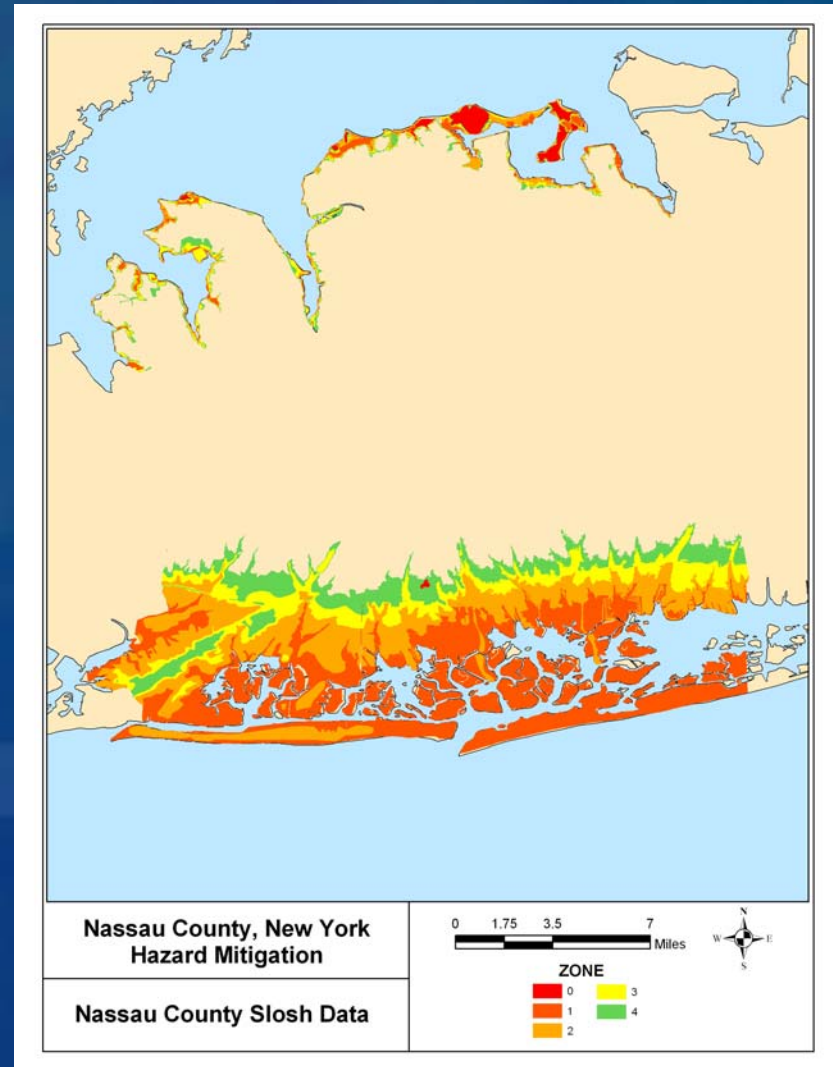






# Hazard Profile – Did You Know....

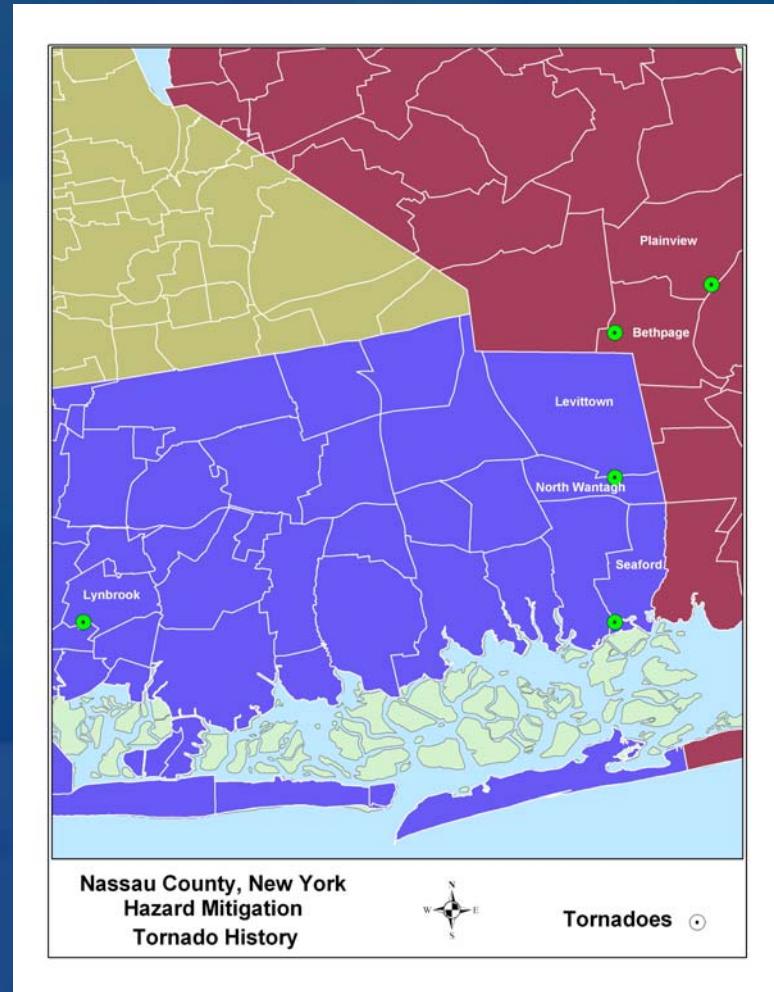
- SLOSH
- Storm Surge Mapping





# Hazard Profile – Did You Know....

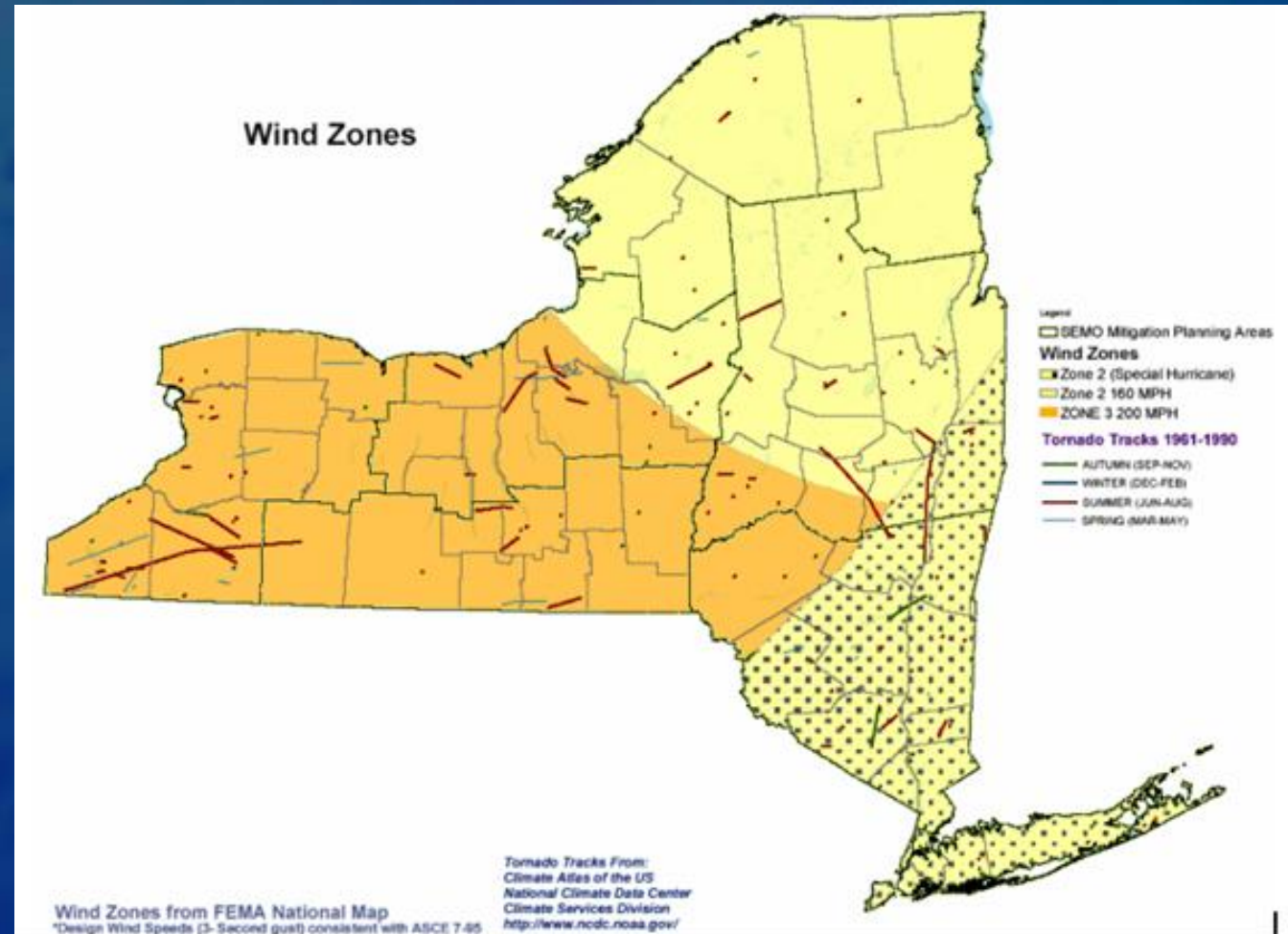
- Nassau County can expect:
  - Average annual number of 1.6 thunderstorm and high wind events
  - Average annual number of 0.6 tornadoes





# Hazard Profile – Did You Know....

- Wind Zone 2-Special Hurricane
- 160 mph design wind speed





# Hazard Profile – Did You Know....

## Wind Speed Probabilities for Nassau County and Surrounding Area (Milepost 2550, as per FEMA B-C Module – Wind, Version 1.0, January 20, 1995)

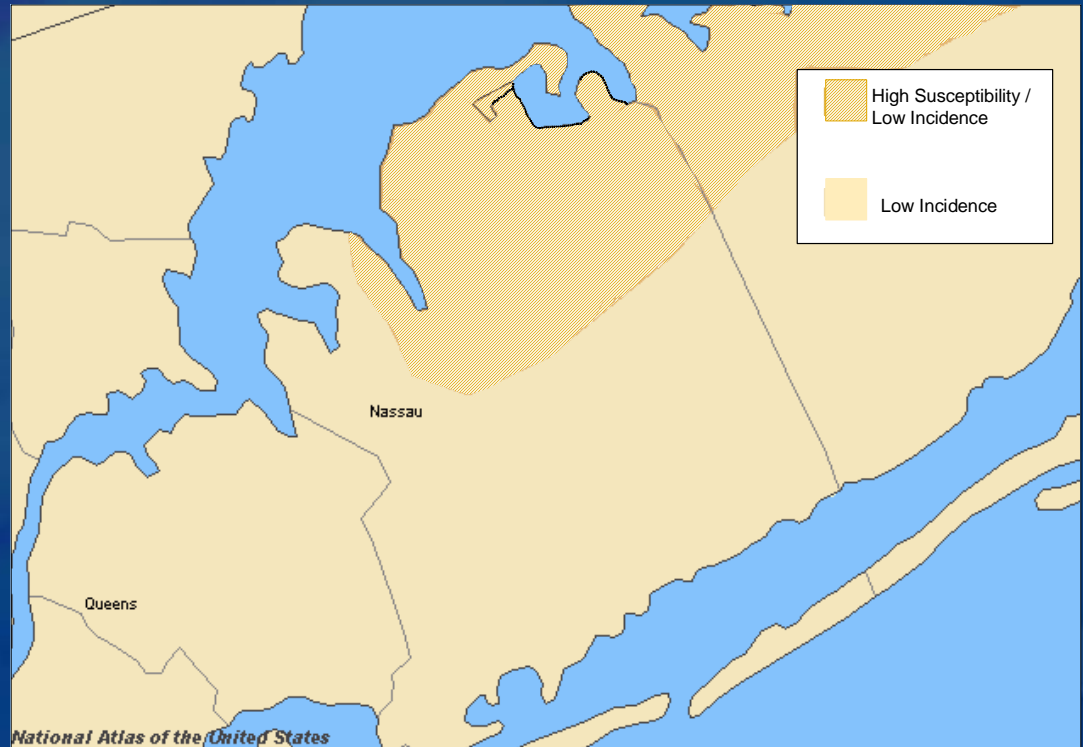
Recurrence Interval	Annual Probability of Occurrence (%)	Wind Speed At the Coast – South Shore (mph)	Wind Speed At 5 Miles Inland (mph)	Wind Speed At 10 Miles Inland (mph)	Wind Speed At 15 Miles Inland (mph)	Wind Speed At 20 Miles Inland – North Shore (mph)	Wind Speed At 125 Miles Inland (mph)
10	10	51	50	49	49	48	32
25	4	77	76	76	75	74	61
50	2	92	91	91	90	89	76
100	1	101	101	100	100	99	90
2000	0.05	138	138	137	137	137	130





## Hazard Profile – Did You Know....

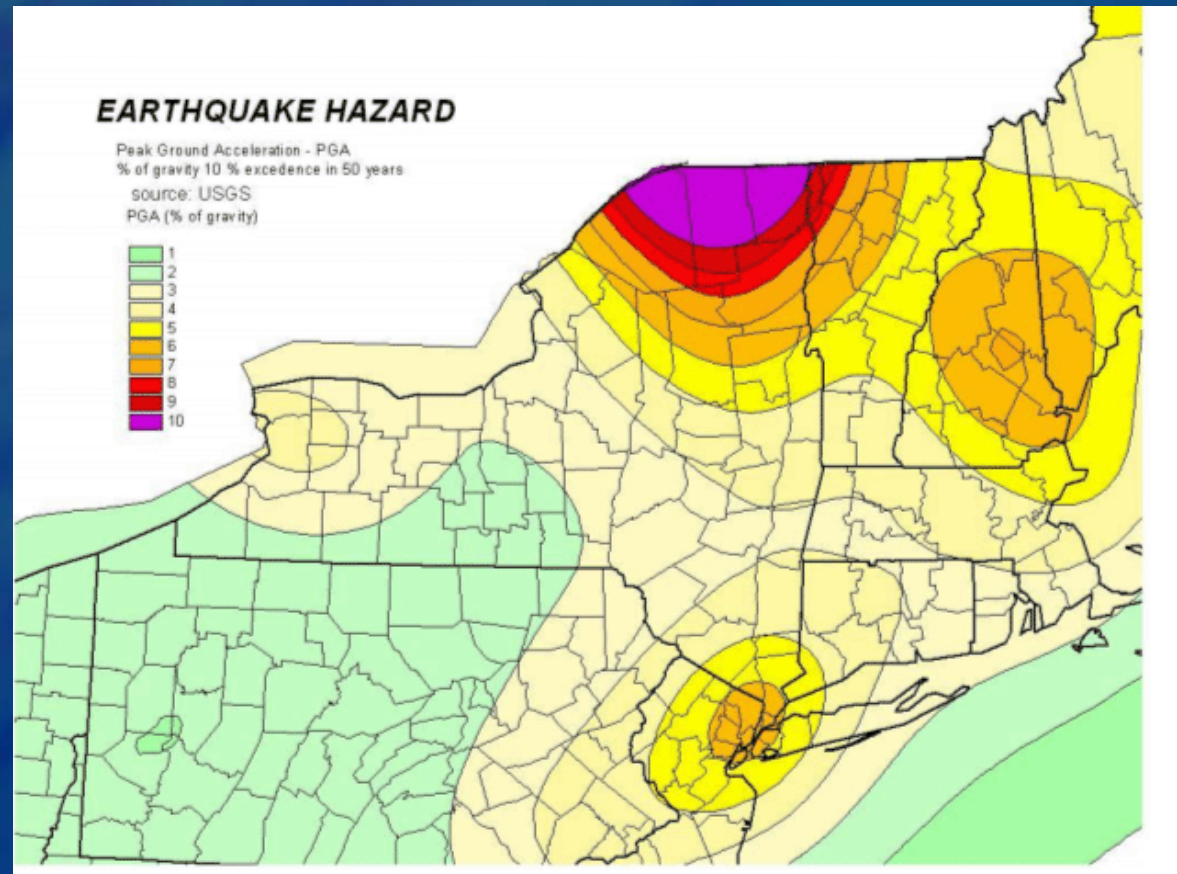
- Landslides:  
30% of Nassau County falls within a mapped area of high susceptibility, though low incidence





# Hazard Profile – Did You Know....

- Earthquakes
- Nassau County lies within three earthquake hazard areas of NYS

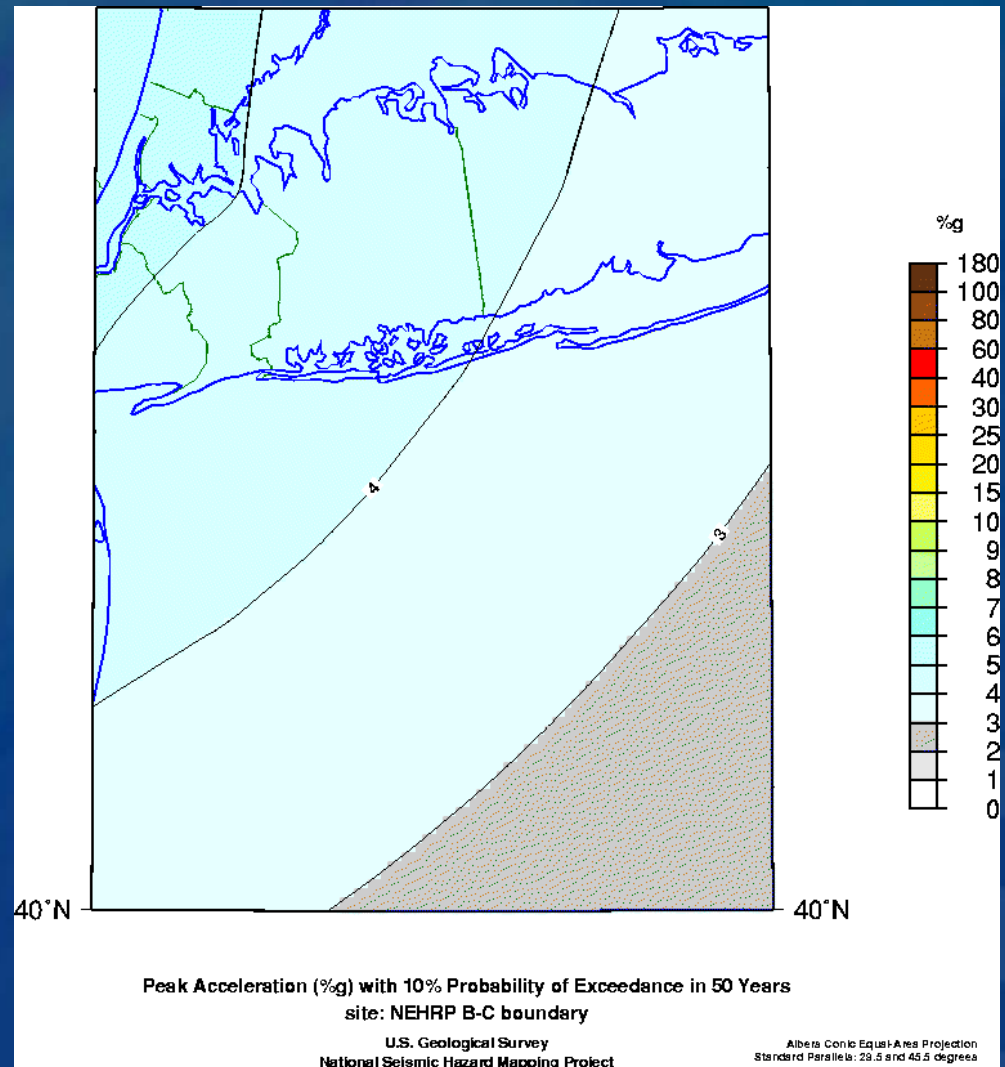






# Hazard Profile – Did You Know....

- Zooming in to Nassau...
- Peak acceleration (%g) with a 10% probability of exceedance in 50yrs = 4 to 5%g





# Hazard Profile – Did You Know....

## Earthquake Magnitude/Intensity Comparison

PGA	Magnitude	Intensity	Perceived Shaking	Potential Damage
<0.17	1.0-3.0	I	Not Felt	None
0.17 – 1.4	3.0 – 3.9	II - III	Weak	None
1.4 – 9.2	4.0 – 4.9	IV – V	IV. Light V. Moderate	IV. None V. Very Light
9.2 - 34	5.0 – 5.9	VI – VII	VI. Strong VII. Very Strong	VI. Light VII. Moderate
34 - 124	6.0 – 6.9	VIII - IX	VIII. IX.	VIII. IX.
> 124	7.0 and higher	X and higher	Extreme	Very Heavy

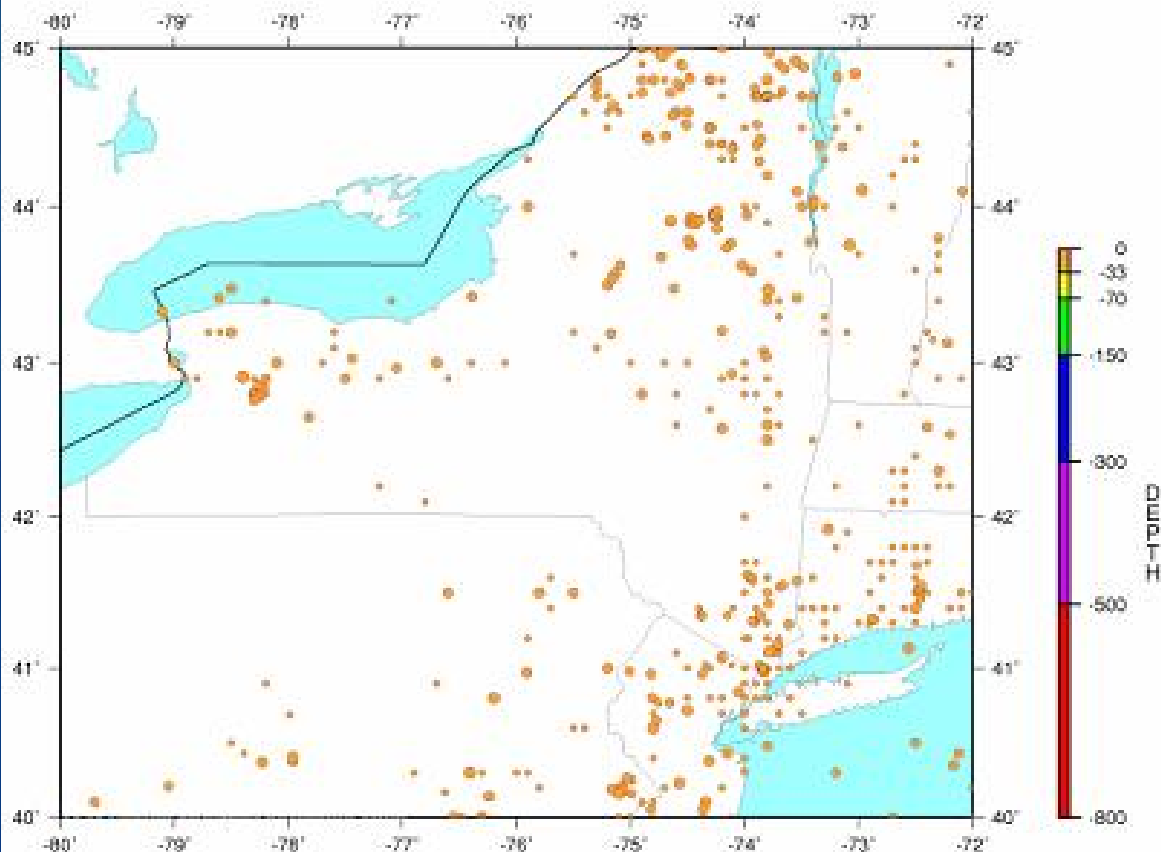


# Hazard Profile – Did You Know....

Earthquake  
Epicenters in  
and near New  
York State  
(1534-1986)

## NEIC: Earthquake Search Results

Rectangular Grid Search  
Latitude Range: 40 to 45  
Longitude Range: -80 to -72  
Number of Earthquakes: 729





# Working Session

- Questionnaire
- Map Exercise



# Project Timeline

- URS Notice to Proceed - August 22, 2005
- Planning Group Meeting #1 – October 20, 2005
- Core Planning Group and Area Assessment Team Meetings – November through January
- Draft Plan – February 2006
- Beginning of Review Cycle for Draft – February 2006



## Project Timeline

- Meetings to Present the Draft – April 2006
- Estimated Completion of Review Cycle for Draft – July 2006
- Final Plan – October 2006
- Meeting to Present the Final – December 2006





## Next Steps

- Please confirm your contact information before you leave.
- Area Assessment Team meetings throughout November.
  - ◆ AAT-NH November 17, 2005
  - ◆ AAT-H November 21, 2005
  - ◆ AAT-OB November 28, 2005
- Reach out to your Area Assessment Team
- Second CPG meeting in December

# Questions and Answers



End of show